

CLAIMS:

1. A screw set for a twin-screw extruder for mixing and dispersing a material to be kneaded into a kneaded product having a desired state of kneading, said screw set comprising:

a rotor segment comprising at least one kneading rotor, said kneading rotor having a plurality of kneading blades, which provide a plurality of tip clearances different from each other at least in the circumferential direction, and having the same sectional shape in the axial direction except for crest portions of said kneading blades; and

a screw segment comprising at least one screw, a portion of said screw segment except for crest portions of screw blades thereof having the same sectional shape as a portion of said rotor segment except for the crest portions of said kneading blades.

2. The screw set for a twin-screw extruder according to Claim 1, further comprising:

a kneading disk segment comprising at least one kneading disk, a portion of said kneading disk segment except for crest portions of disk blades thereof having the same sectional shape as the portion of said rotor segment except for the crest portions of said kneading blades.

3. The screw set for a twin-screw extruder according to Claim 1, wherein all of segment members have the same sectional shape as the portion of said rotor segment except for the crest portions of said kneading blades.

4. The screw set for a twin-screw extruder according to Claim 1, wherein said kneading rotor provides a plurality of tip clearances different from each other in the axial direction of said rotor segment.

5. The screw set for a twin-screw extruder according to Claim 1, wherein said rotor segment comprises at least one of three types including a first type in which said kneading blades are twisted clockwise with respect to the axial direction, a second type in which said kneading blades are extended parallel to the axial direction, and a third type in which said kneading blades are twisted counterclockwise with respect to the axial direction.

6. The screw set for a twin-screw extruder according to Claim 5, wherein said rotor segment comprises at least two of said three types.
7. The screw set for a twin-screw extruder according to Claim 6, wherein said rotor segment comprises all of said three types.
8. The screw set for a twin-screw extruder according to claim 1, wherein the number of said kneading blades is two.
9. The screw set for a twin-screw extruder according to Claim 1, wherein the number of said kneading blades is three.